

Sub I  
30. (New) A method as in claim 23, wherein the target molecule is an aptamer.

31. (New) A method as in claim 23, wherein the target molecule is a metal ion.

Sub H2  
32. (New) A method as in claim 23, wherein the catalytically active RNA comprises a hairpin ribozyme.

Sub I  
33. (New) A method as in claim 23, wherein the catalytically active RNA comprises a hammerhead ribozyme.

Sub H3  
34. (New) A method as in claim 23, wherein the catalytically active RNA catalyzes both cleavage and ligation of nonadjacent substrates that are both bound to the target.

G2 (cont'd)  
35. (New) A method as in claim 23, wherein the catalytic activity of the catalytically active RNA comprises cleavage of a capture probe which is bound to the target and ligation of two replicase probes which are bound to the target.

36. (New) A method as in claim 23, wherein the catalytic activity of the catalytically active RNA comprises cleavage of a capture probe which is bound to the target, said method further comprising ligation by the catalytically active RNA of two replicase probes which are not bound to the target.

Sub I  
37. (New) A method as in claim 23, wherein the substrate is the catalytically active RNA and the reaction catalyzed by the catalytically active RNA is autocatalysis.

Sub H4  
38. (New) A method as in claim 23, wherein the substrate is a capture probe comprising a polynucleotide sequences that are complementary to both the target sequence and a substrate sequence for the catalytically active RNA.

Sub I  
39. (New) A method as in claim 38, wherein the capture probe is bound to a solid support.

Sub H5  
40. (New) A method as in claim 39, wherein a portion of the capture probe is released from the solid support upon cleavage of the substrate sequence by the catalytically active RNA.

41. (New) A method as in claim 40, wherein the capture probe further comprises a terminal biotinylated nucleotide.

Sub H1  
42. (New) A method as in claim 41, wherein the solid support comprises streptavidin-coated particles.

43. (New) A method as in claim 42, wherein the particles comprise a magnetic material.

A2 (cont'd)  
44. (New) A method as in claim 25, wherein the substrate comprises two RNA replication probes, wherein each replication probe comprises a sequence that can serve as a substrate for Q $\beta$  replicase only when both replication probes are ligated together.

Sub H6  
45. (New) A method as in claim 44, wherein the catalytically active RNA catalyzes ligation of the two replication probes to each other.

Sub H1  
46. (New) A method as in claim 45, further comprising the step of freezing the composition.

47. (New) A method as in claim 45, further comprising the step of adding at least about 40% ethanol to the composition.

Sub H7  
48. (New) A method as in claim 45, wherein detection of the target comprises amplification of the ligated replication probes by Q $\beta$  replicase.

49. (New) A method as in claim 48, further comprising the presence of an intercalating fluorescent dye and detection of the Q $\beta$  replicase reaction products by observation of the change in fluorescence.

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